

## Heatsink Protrusion Attachment

### <FR-A8CN01 to 09>

Thank you for choosing this Mitsubishi inverter option unit.

This Instruction Manual provides handling information and precautions for use of the equipment. Incorrect handling might cause an unexpected fault. Before using this product, always read this Instruction Manual carefully to use this product correctly.

Please forward this Instruction Manual to the end user.

#### SAFETY INSTRUCTIONS

- ⚠ While power is ON or for some time after power-OFF, do not touch the inverter and attachment since they will be extremely hot. Touching these devices may cause a burn.
- ⚠ The product must be transported in correct method that corresponds to the weight. Failure to do so may lead to injuries. Special attention must be paid to the edges of the product.
- ⚠ Foreign conductive objects must be prevented from entering the inverter. That includes screws and metal fragments or other flammable substance such as oil.

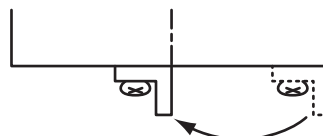
This attachment allows approximately 70% of the heat generated by the inverter to be radiated outside the enclosure by protruding the inverter heatsink section out from the rear side of the enclosure.

## 1 ENCLOSED ITEMS

Check the attachment model, and check that the following items are enclosed with the indicated quantity.

Symbol	Enclosed items	Attachment model								
		FR-A8CN01	FR-A8CN02	FR-A8CN03	FR-A8CN04	FR-A8CN05	FR-A8CN06	FR-A8CN07	FR-A8CN08	FR-A8CN09
a	Upper installation frame	1	1	1	1	1	1	1	1	1
b	Upper cover	1	1	1	1	1	1	1	1	1
c	Lower installation frame	1	1	1	1	1	*1	*1	*1	*1
d	Upper/lower frame installation screw	4 (M5-12)	4 (M5-10)	4 (M5-10)	4 (M8-16)	*2	*2	*2	*2	*2
e	Cover installation screw	2 (M4-8)	3 (M4-10)	3 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)
f	Right installation frame	—	—	—	—	1	1	1	1	1
g	Left installation frame	—	—	—	—	1	1	1	1	1
h	Left/right frame installation screw	—	—	—	—	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)

\*1 For the FR-A8CN06 to 09, the lower installation frame (c) is not enclosed. Use the inverter's lower installation frame by changing its installation position.



\*2 Use the fixing screws for the standard installation feet of the inverter.

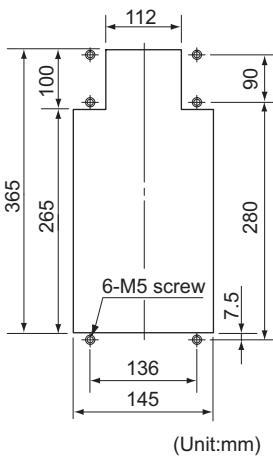
# 2 APPLICABLE MODELS

Applicable model	Applicable attachment								
	FR-A8CN01	FR-A8CN02	FR-A8CN03	FR-A8CN04	FR-A8CN05	FR-A8CN06	FR-A8CN07	FR-A8CN08	FR-A8CN09
FR-A820	00105(1.5K) 00167(2.2K) 00250(3.7K)	00340(5.5K) 00490(7.5K)	00630(11K)	00770(15K) 00930(18.5K) 01250(22K)	01540(30K)	01870(37K) 02330(45K)	03160(55K)	03800(75K) 04750(90K)	—
FR-A840	00023(0.4K) 00038(0.75K) 00052(1.5K) 00083(2.2K) 00126(3.7K)	00170(5.5K) 00250(7.5K)	00310(11K) 00380(15K)	00470(18.5K) 00620(22K)	00770(30K)	00930(37K) 01160(45K) 01800(55K)	—	03250(110K) 03610(132K)	02160(75K) 02600(90K)

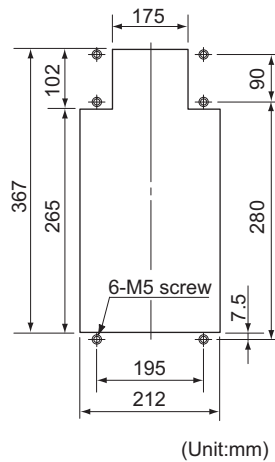
# 3 ENCLOSURE CUT DIMENSIONS

(1) Cut an enclosure to the following dimensions according to the inverter capacity.

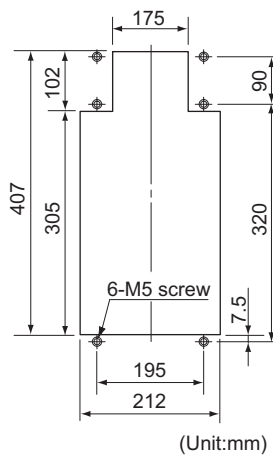
FR-A8CN01



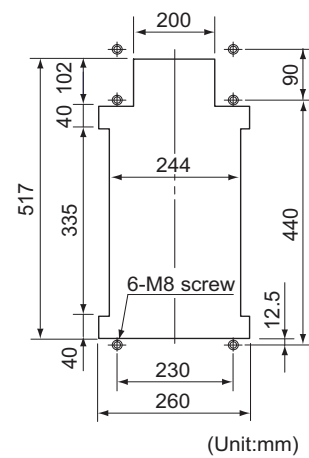
FR-A8CN02



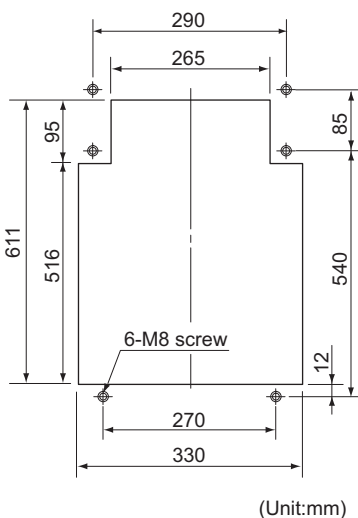
FR-A8CN03



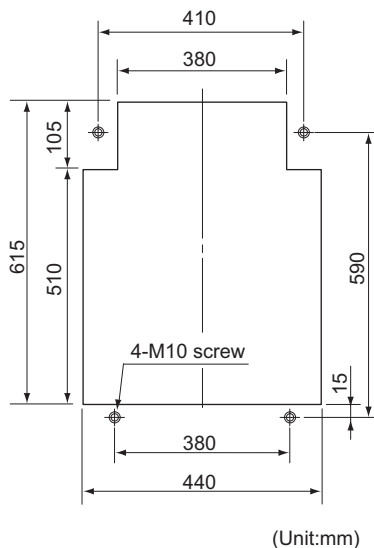
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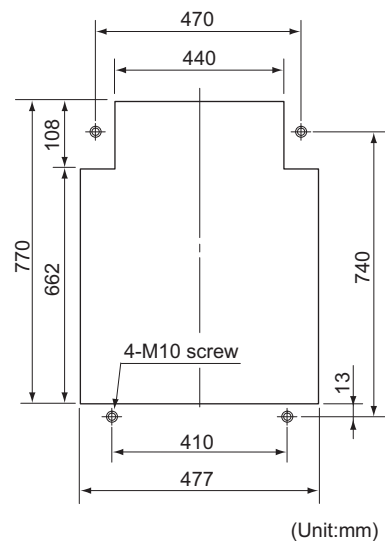
FR-A8CN05



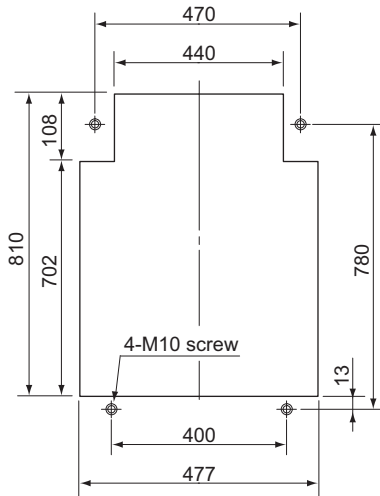
FR-A8CN06



FR-A8CN07

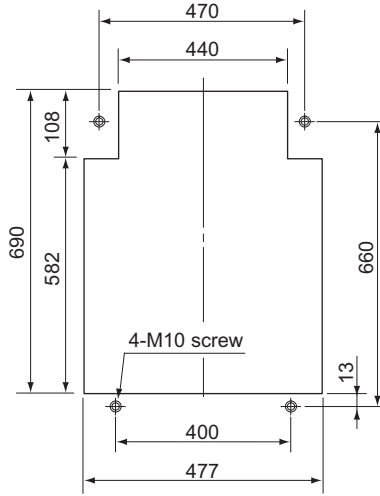


FR-A8CN08



(Unit:mm)

FR-A8CN09



(Unit:mm)

(2) Refer to "INSTALLATION PROCEDURE" on [page 5](#) to assemble the attachment to the inverter. After assembly, install the inverter in the enclosure.

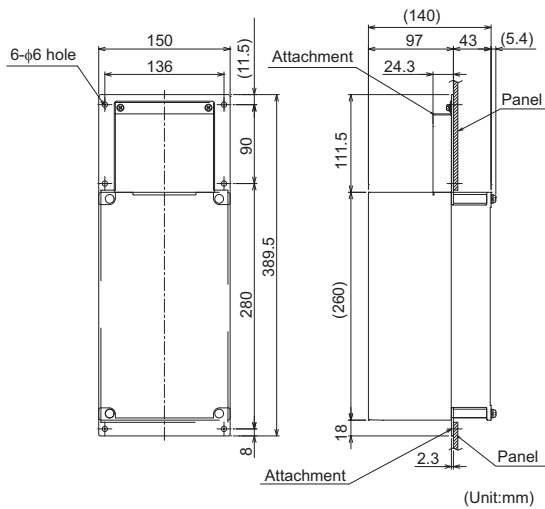
**NOTE**

- Since the cooling section, which comes out of the enclosure, has a cooling fan, avoid environment with water drops, oil mist, dust, etc.
- Be careful not to drop screws, dust, etc. into the inverter and cooling fan section.
- A gap of approximately 1 mm is left between the FR-A8CN and the inverter. (The inverter is not in an enclosed condition.)

# 4 OUTLINE DIMENSION DRAWINGS

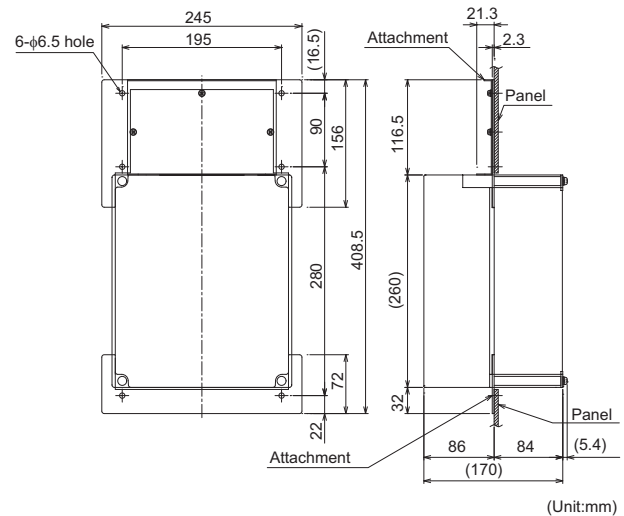
(-----: Enclosure cut dimensions)

FR-A8CN01



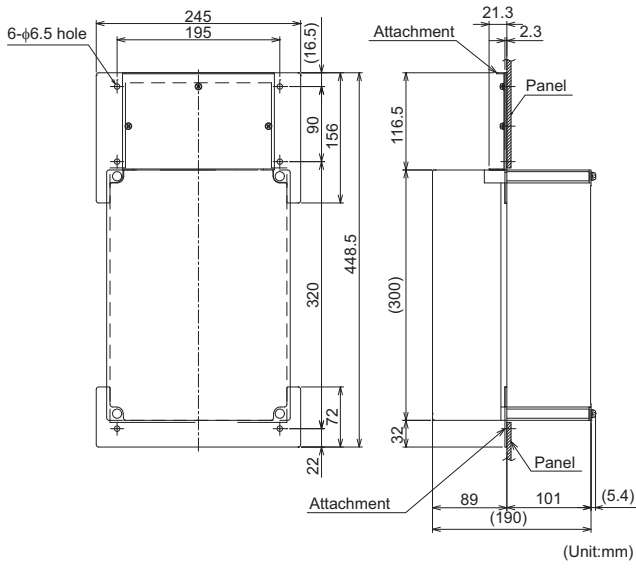
(Unit:mm)

FR-A8CN02

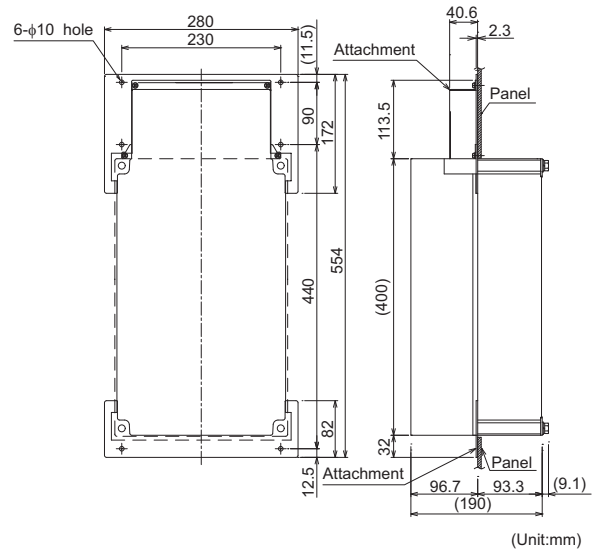


(Unit:mm)

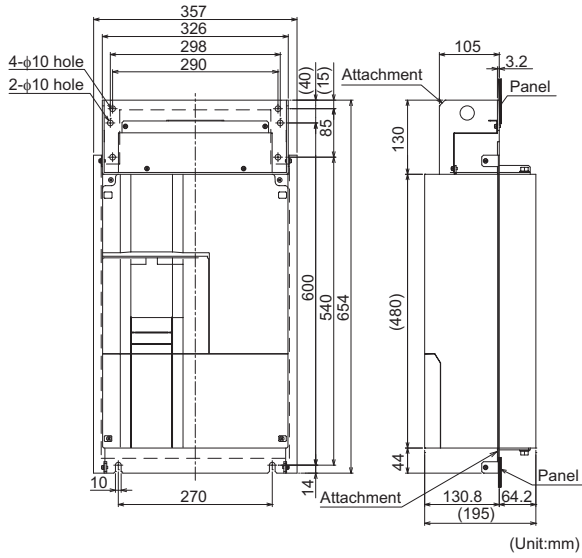
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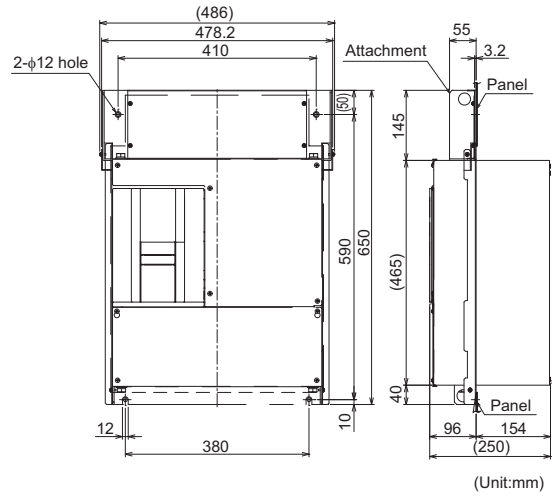
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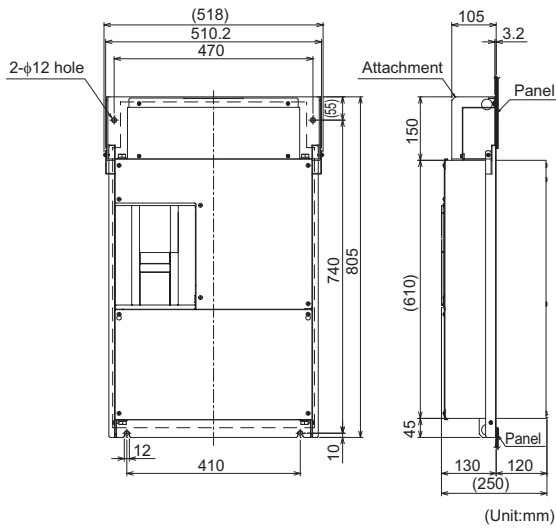
FR-A8CN05



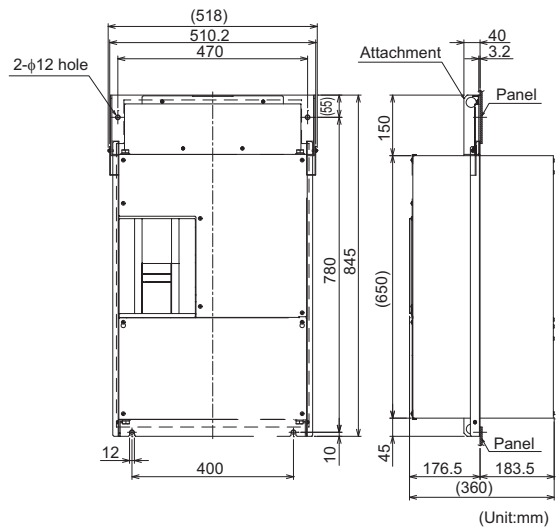
FR-A8CN06



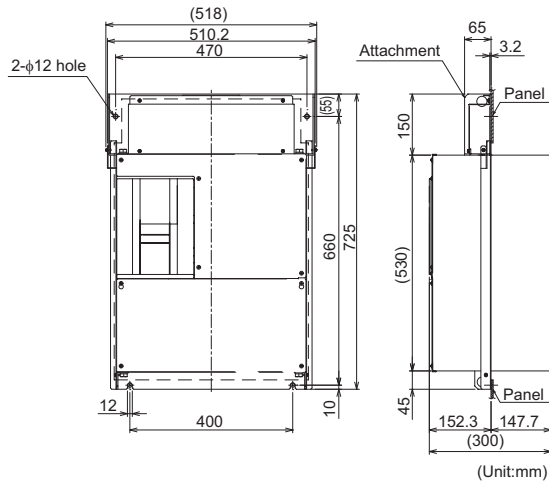
FR-A8CN07



FR-A8CN08

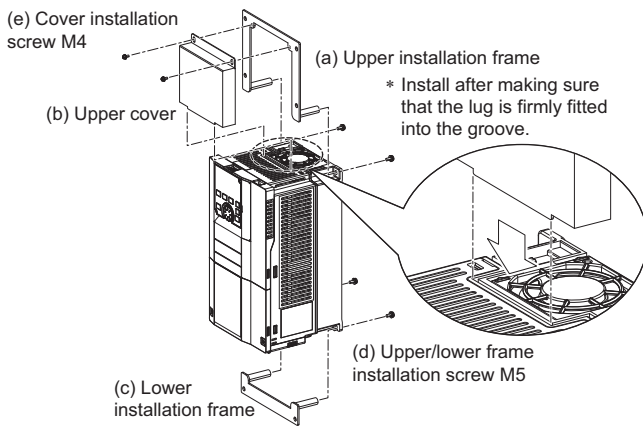


**FR-A8CN09**

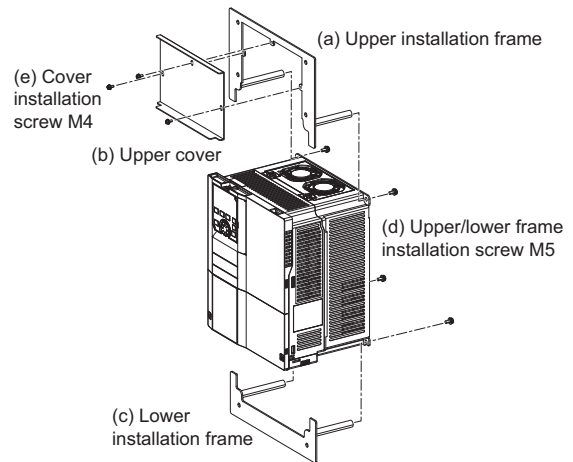


# 5 INSTALLATION PROCEDURE

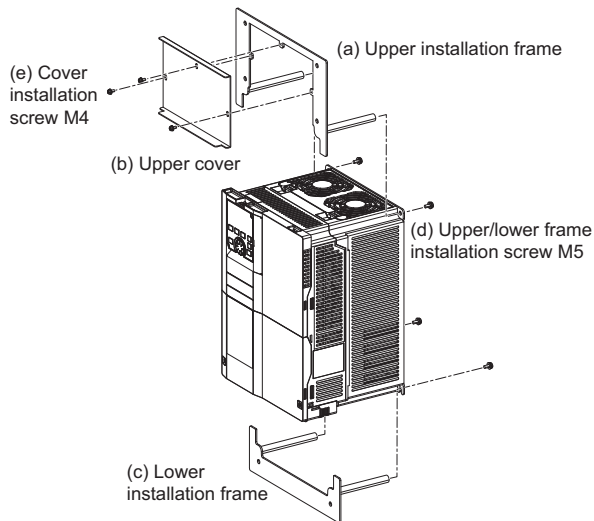
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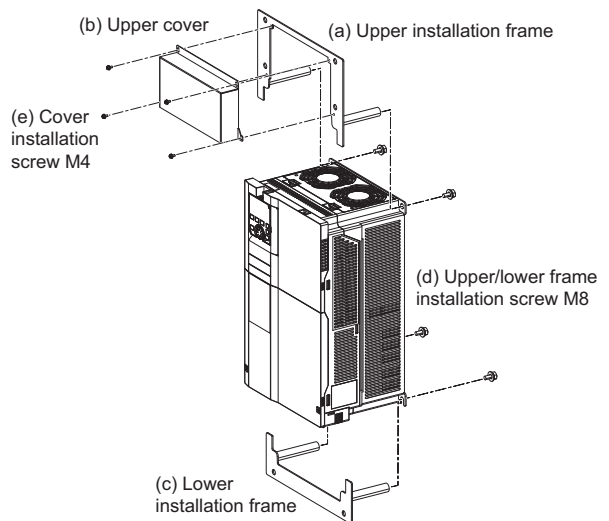
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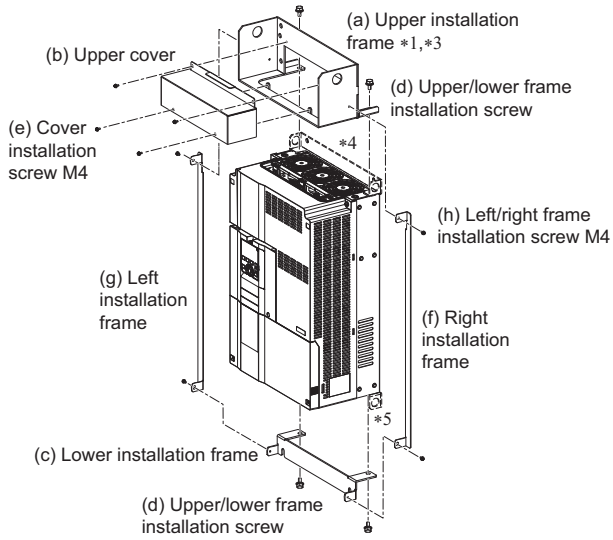
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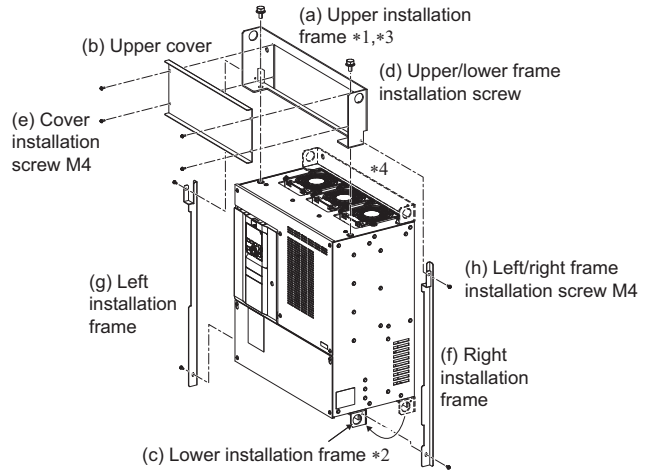
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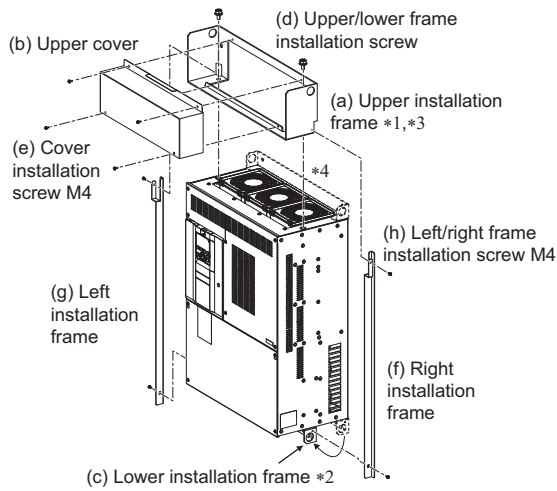
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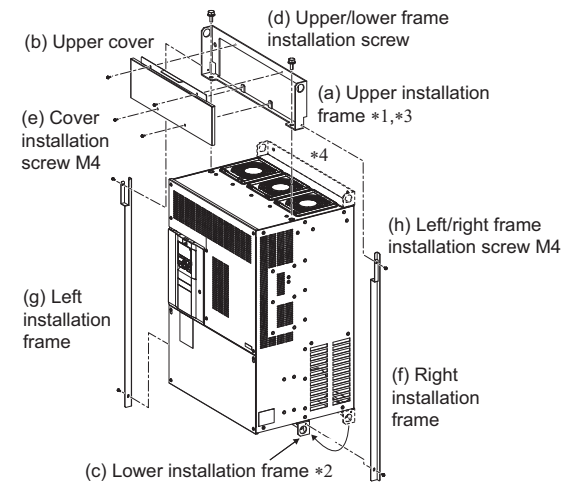
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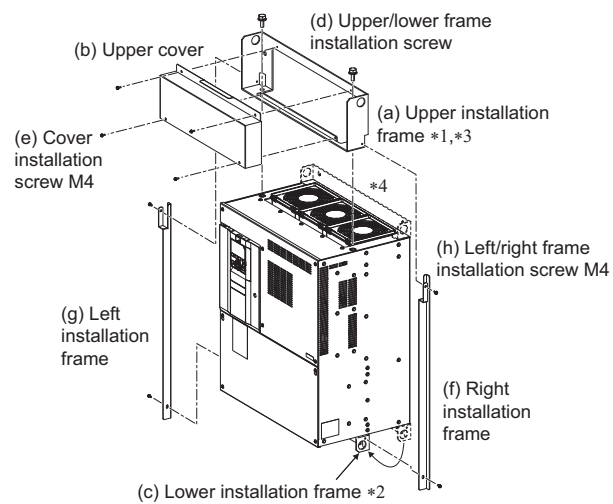
**FR-A8CN07**



**FR-A8CN08**

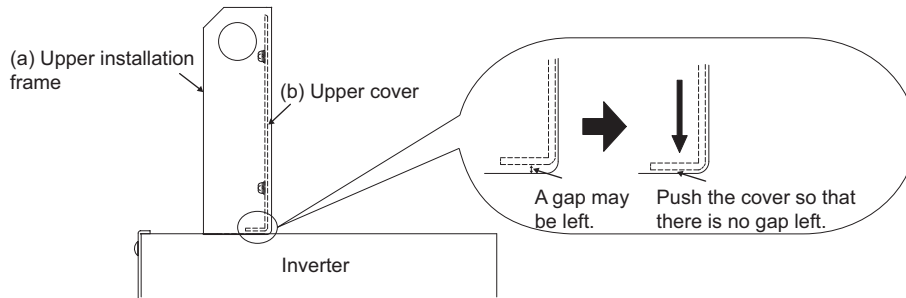


**FR-A8CN09**



- \*1 When carrying the inverter, do not hold the upper section of the upper installation frame (a). Doing so may change the frame shape.
- \*2 For the FR-A8CN06 to 09, change the position of the standard installation feet/lower section and use it instead of the lower installation frame (c).

- \*3 For the FR-A8CN05 to 09, fit the upper cover (b) to the upper installation frame (a) first, and then install the upper installation frame (a) to the inverter. When the upper cover (b) is installed to the upper installation frame (a), a gap may sometimes remain between the lower part of the upper cover (b) and the upper installation frame (a). Install the upper cover after checking that no gap exists.



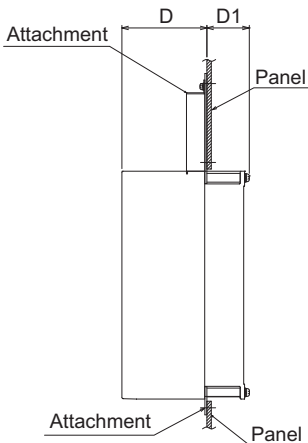
- \*4 Remove the standard installation foot/upper section of the inverter. Use the fixing screws for the standard installation feet to fix the upper installation frame.
- \*5 Remove the standard installation foot/lower section of the inverter. Use the fixing screws for the standard installation feet to fix the lower installation frame.

**NOTE**

- When replacing the cooling fan, remove the upper cover (b) and then replace the cooling fan from the opening. (For details on the cooling fan replacement, refer to the Instruction Manual of the inverter.)

## 6 DEPTH DIMENSIONS

When a 700 series option unit is replaced with an 800 series option unit, depth requirements outside and inside the enclosure differ as shown in the shaded area of the table below.



Before replacement			After replacement		
Attachment model	D (mm)	D1 (mm)	Attachment model	D (mm)	D1 (mm)
FR-A7CN01	97	48.4	FR-A8CN01	97	48.4
FR-A7CN02	86	89.4	FR-A8CN02	86	89.4
FR-A7CN03	89	106.4	FR-A8CN03	89	106.4
FR-A7CN04	88.5	110.6	FR-A8CN04	96.7	102.4
FR-A7CN05, 06	123.5	71.5	FR-A8CN05	130.8	64.2
FR-A7CN07	96	154	FR-A8CN06	96	154
FR-A7CN11	97	153	FR-A8CN07	130	120
FR-A7CN10	176.5	183.5	FR-A8CN08	176.5	183.5
FR-A7CN08, 09	116.5	183.5	FR-A8CN09	152.3	147.7







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Mitsubishi Electric Europe B.V. Radlická 751/113e Avenir Business Park <b>CZ-158 00 Praha 5</b> Phone: +420 251 551 470 Fax: +420 251 551 471	<b>CZECH REP.</b>	000 TECHNIKON Prospect Nezavisimosti 177-9 <b>BY-220125 Minsk</b> Phone: +375 (0)17 / 393 1177 Fax: +375 (0)17 / 393 0081	<b>BELARUS</b>	ALFATRADE Ltd. 99, Paola Hill <b>Malta-Paola PLA 1702</b> Phone: +356 (0)21 / 697 816 Fax: +356 (0)21 / 697 817	<b>MALTA</b>	<b>MIDDLE EAST REPRESENTATIVE</b>	
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Mitsubishi Electric Europe B.V. Westgate Business Park, Ballymount <b>IRL-Dublin 24</b> Phone: +353 (0)1 4198800 Fax: +353 (0)1 4198890	<b>IRELAND</b>	KONING & HARTMAN B.V. Woluwelaan 31 <b>BE-1800 Vilvoorde</b> Phone: +32 (0)2 / 257 02 40 Fax: +32 (0)2 / 257 02 49	<b>BELGIUM</b>	HIFLEX AUTOM. B.V. Wolweverstraat 22 <b>NL-2984 CD Ridderkerk</b> Phone: +31 (0)180 / 46 60 04 Fax: +31 (0)180 / 44 23 55	<b>NETHERLANDS</b>	SHERF Motion Techn. Ltd. Rehov Hamerkava 19 <b>IL-58851 Holon</b> Phone: +972 (0)3 / 559 54 62 Fax: +972 (0)3 / 556 01 82	<b>ISRAEL</b>
Mitsubishi Electric Europe B.V. Viale Colleoni 7 Palazzo Sirio <b>I-20864 Agrate Brianza (MB)</b> Phone: +39 039 / 60 53 1 Fax: +39 039 / 60 53 312	<b>ITALY</b>	INEA RBT d.o.o. Stegne 11 <b>SI-1000 Ljubljana</b> Phone: +386 (0)1 / 513 8116 Fax: +386 (0)1 / 513 8170	<b>BOSNIA AND HERZEGOVINA</b>	IMTECH MARINE & OFFSHORE B.V. Sluisjesdijk 155 <b>NL-3087 AG Rotterdam</b> Phone: +31 (0)10 / 487 19 11 Fax: +31 (0)10 / 487 1692	<b>NETHERLANDS</b>	CEG LIBAN Cebaco Center/Block A Autostrade DORA <b>Lebanon-Beirut</b> Phone: +961 (0)1 / 240 445 Fax: +961 (0)1 / 240 193	<b>LEBANON</b>
Mitsubishi Electric Europe B.V. Nijverheidsweg 23a <b>NL-3641RP Mijdrecht</b> Phone: +31 (0) 297250350	<b>NETHERLANDS</b>	AKHNATON 4, Andrei Ljapchev Blvd., PO Box 21 <b>BG-1756 Sofia</b> Phone: +359 (0)2 / 817 6000 Fax: +359 (0)2 / 97 44 06 1	<b>BULGARIA</b>	KONING & HARTMAN B.V. Energieweg 1 <b>NL-2627 AP Delft</b> Phone: +31 (0)15 260 99 06 Fax: +31 (0)15 261 9194	<b>NETHERLANDS</b>	<b>AFRICAN REPRESENTATIVE</b>	
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Mitsubishi Electric Turkey Elektrik Ürünleri A.Ş. Fabrika Otomasyon Merkezi Şerifali Mahallesi Nutuk Sokak No.5 <b>TR-34775 Ümraniye-İSTANBUL</b> Phone: +90 (0)216 / 526 39 90 Fax: +90 (0)216 / 526 39 95	<b>TURKEY</b>	Beijer Electronics Eesti OÜ Pärnu mnt. 160i <b>EE-11317 Tallinn</b> Phone: +372 (0)6 / 51 81 40 Fax: +372 (0)6 / 51 81 49	<b>ESTONIA</b>	SIMAP SK (Západné Slovensko) Jána Derku 1671 <b>SK-911 01 Trenčín</b> Phone: +421 (0)32 743 04 72 Fax: +421 (0)32 743 75 20	<b>SLOVAKIA</b>		
Mitsubishi Electric Europe B.V. Travellers Lane <b>UK-Hatfield, Herts. AL10 8XB</b> Phone: +44 (0)1707 / 28 87 80 Fax: +44 (0)1707 / 27 86 95	<b>UK</b>	Beijer Electronics OY Vanha Nurmijärventie 62 <b>FIN-01670 Vantaa</b> Phone: +358 (0)207 / 463 500 Fax: +358 (0)207 / 463 501	<b>FINLAND</b>	INEA RBT d.o.o. Stegne 11 <b>SI-1000 Ljubljana</b> Phone: +386 (0)1 / 513 8116 Fax: +386 (0)1 / 513 8170	<b>SLOVENIA</b>		
Mitsubishi Electric Europe B.V. Dubai Silicon Oasis <b>United Arab Emirates - Dubai</b> Phone: +971 4 3724716 Fax: +971 4 3724721	<b>UAE</b>	PROVENDOR OY Teljänkatu 8 A3 <b>FIN-28130 Pori</b> Phone: +358 (0) 2 / 522 3300 Fax: +358 (0) 2 / 522 3322	<b>FINLAND</b>	Beijer Electronics Automation AB Box 426 <b>SE-20124 Malmö</b> Phone: +46 (0)40 / 35 86 00 Fax: +46 (0)40 / 93 23 01	<b>SWEDEN</b>		
Mitsubishi Electric Corporation Tokyo Building 2-7-3 Marunouchi, Chiyoda-ku <b>Tokyo 100-8310</b> Phone: +81 (3) 3218-2111 Fax: +81 (3) 3218-2185	<b>JAPAN</b>	UTECO A.B.E.E. 5, Mavrogenou Str. <b>GR-18542 Piraeus</b> Phone: +30 (0)211 / 1206-900 Fax: +30 (0)211 / 1206-999	<b>GREECE</b>	OMNI RAY AG Im Schörl 5 <b>CH-8600 Dübendorf</b> Phone: +41 (0)44 / 802 28 80 Fax: +41 (0)44 / 802 28 28	<b>SWITZERLAND</b>		
Mitsubishi Electric Automation, Inc. 500 Corporate Woods Parkway <b>Vernon Hills, IL 60061</b> Phone: +1 (847) 478-2100 Fax: +1 (847) 478-0328	<b>USA</b>	MELTRADE Kft. Fertő utca 14. <b>HU-1107 Budapest</b> Phone: +36 (0)1 / 431-9726 Fax: +36 (0)1 / 431-9727	<b>HUNGARY</b>	OOO "CSC-AUTOMATION" 4-B, M. Raskovoyi St. <b>UA-02660 Kiev</b> Phone: +380 (0)44 / 494 33 44 Fax: +380 (0)44 / 494-33-66	<b>UKRAINE</b>		
		Beijer Electronics SIA Rītausmas iela 23 <b>LV-1058 Riga</b> Phone: +371 (0)6 / 784 2280 Fax: +371 (0)6 / 784 2281	<b>LATVIA</b>				